



Faculty of Medicine

LÄKA22, The Nervous System and Organs of Movement and Support, 28.5 credits

Nervsystemet och rörelseapparaten, 28,5 högskolepoäng
First Cycle / Grundnivå

Details of approval

The syllabus was approved by Committee for Biomedical, Medical and Public Health Education on 2014-03-25 to be valid from 2014-03-25, autumn semester 2014.

General Information

The course is included in semester 2 of the Master of Science programme in Medicine. It is compulsory.

Language of instruction: Swedish
Literature in English may be included.

Main field of studies

Medicine

Depth of study relative to the degree requirements

G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding

On completion of the course, the students shall be able to

- describe the first four weeks of embryonic development
- describe the anatomical structure of the musculoskeletal apparatus, including the whole skeleton, the body's muscles and their functions, and circulation and innervation of the musculoskeletal apparatus

- explain how movements are generated by the different parts of the musculoskeletal apparatus working together
- describe the structure and growth of bone, cartilage and other supporting tissues
- explain the underlying structural and molecular mechanisms of muscle contraction
- account for the anatomical and functional structure of the central nervous system, including the different cell types and their properties
- explain the outline structure of the nerve cells, and the underlying electrophysiological and molecular mechanisms for nerve signalling and synaptic transmission
- account for the anatomy of the most important sensory and motor pathways
- explain the morphology and function of the sensory organs
- account for the central nervous basis of interpretation of sensory information, motor control, cognitive functions and emotional control

Competence and skills

On completion of the course, the students shall be able to

- select and use appropriate terminology in communication with experts and non-experts
- explain basic conditions covered in the course to non-experts
- seek, orally present and summarise scientific papers/popular science articles that link to the various weekly themes to their fellow students, in a clear and concise fashion, and be able to give and receive constructive feedback on the content, structure and style of oral presentations
- work in groups, and constructively lead them
- assess their own role in a group

Judgement and approach

On completion of the course, the students shall be able to

- reflect on the humanitarian and ethical issues brought to the fore by neurological research
- identify their need of knowledge and take responsibility for their own learning.

Course content

The course is intended to provide integrated knowledge of the morphology and physiology of the musculoskeletal apparatus and the structure and function of the nervous system.

The above learning outcomes are part of the basic scientific skills required in the following clinical situations: convulsions, disordered consciousness, fever, headache/facial pain, fainting, physical weakness, painful and/or swollen joints,

trauma (low energy), fractures, ulcers/wounds, changes in sensation, vision changes/vision phenomena, skin problems, changed skin colour, burn and cold injuries, dizziness/balance disorders, pain in back/neck/shoulder, movement disorders, confusion, long-term aches/pains, pigment changes, itching, delusions/hallucinations, involuntary movement, hoarseness, sleeping difficulties, forgetfulness/memory loss, mood affective disorders, hearing impairment/buzzing in the ears, aggression and irritability, language and speech disorders, loss of smell and taste, hair and nail problems.

Course design

The course is based on Problem-Based Learning (PBL). It is divided into weekly themes in which each week contains compulsory PBL meetings and one or two supporting lectures. In addition, the course includes compulsory laboratory sessions and palpation exercises, and microscope exercises and anatomical demonstrations.

Assessment

Scope and structure of the assessment:

written exam, based on the stated learning outcomes of the course (15 credits)

oral morphology exam covering ability to identify and name defined structures from anatomical models and microscopic preparations (6 credits).

Course portfolio (7.5 credits) consisting of:

- passed PBL work, including an article presentation
- self-assessment of PBL work
- documentation of attendance at laboratory sessions.

Students who have begun a course under an older programme syllabus are entitled to three re-takes of examinations on the course for one year after the course was discontinued or underwent major changes.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

Entry requirements

To be admitted to the course, students must have completed the course components/portfolio of semester 1.

Subcourses in LÄKA22, The Nervous System and Organs of Movement and Support

Applies from V08

- 0701 Written Test, 15,0 hp
Grading scale: Fail, Pass
- 0702 Morphological Test, 6,0 hp
Grading scale: Fail, Pass
- 0703 Portfolio, 7,5 hp
Grading scale: Fail, Pass